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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/056,789	01/24/2002	Milosh Koprivica	981458	9432

7590 07/28/2005

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EXAMINER

DUONG, OANH L

ART UNIT	PAPER NUMBER
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2155

DATE MAILED: 07/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/056,789

Applicant(s)

KOPRIVICA, MILOSH

Examiner

Oanh Duong

Art Unit

2155

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 1/24/2002 an 06/17/2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 June 2002 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

### **DETAILED ACTION**

1. Claims 1-12 are presented for examination.

### ***Drawings Objection***

2. Figure 4 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Claim Objections***

3. Claims 1-8 and 10-12 are objected to because of the following informalities:

Claim 1 recites the limitations "the message content", "the contents" in line 7, "the subpacket error checking mechanism" in lines 10-11, and "the variable length data

message" in line 13. There are insufficient antecedent basis for this limitation in the claim.

In claim 3-8 and 11-12, it is not clear that feature "the message integrity field " implies to the message integrity field indicative the contents of the subpackets or the message integrity field of the stored packets.

Claim 10 recites the limitation "the contents" in lines 4 and 16, "the accuracy" in lines 5-6. There is insufficient antecedent basis for this limitation in the claim.

In claim 10, the term "which" lines 6 and 7 should not be used in the claim.

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4, Claims 1-8 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Kapoor (US 5,818,852).

Regarding claim 1, Kapoor teaches a method for reliable unacknowledged communication of long length data messages transmitted in the presence of interference (Fig. Fig. 6), the method comprising the steps of:

dividing the message contents into a plurality of subpackets of predetermined size (i.e., subdivides the frame of data into subframes, col. 2 lines 64-65);

incorporating a subpacket error detection field into each subpacket (i.e., the error detecting code may be put at the end of the segment, col. 3 lines 6-7);

calculating a message integrity field indicative of the contents of the subpackets (i.e., the checksum error code is generated for the entire data packet frame, col. 2 lines 7-9);

transmitting each subpacket and the message integrity field to one or more recipients over a communications link multiple times (i.e., packetized data is sent in subframes and the data packet is resent until each subframe for a frame has been correctly received at least once, col. 4 lines 13-16);

storing each subpacket by a recipient when the subpacket error checking mechanism indicates that it has been received without error (i.e., storing subframes which have been received without error, col. 2 lines 56-57);

calculating a message integrity field of the stored subpackets (i.e., calculate checksum over the frame, col. 3 lines 41-42);

determining that the variable length data message has been correctly communicated when the message integrity field of the stored subpackets corresponds to the transmitted message integrity field (i.e., comparing the calculated checksum of

the frame to the checksum code with has been transmitted along with the frame, col. 3 lines 43-45).

Regarding claim 2, Kapoor teaches the method of claim 1, where the subpacket error detection field is comprised of a cyclical redundancy check based upon the subpacket contents (i.e., checksum, col. 3 line 43)

Regarding claim 3, Kapoor teaches the method of claim 1, in which the message integrity field is calculated based upon the entirety of the contents of the subpackets (i.e., calculating a checksum over the frame, col. 3 lines 41-42).

Regarding claim 4, Kapoor teaches the method of claim 1, in which the message integrity field is calculated based upon the contents of the long length data message (i.e., a checksum error code is generated for the entire data packet frame, col. 2 lines 7-9).

Regarding claim 5, Kapoor teaches the method of claim 1,

Kapoor does not explicitly teach message integrity field is calculated based upon the subpacket error detection fields.

Kapoor teaches an error detecting code is calculated over each subframe (col. 3 lines 5-6).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Kapoor to calculate the message integrity field based on the error detecting code calculated over each subframe. One would be motivated to do so to reduce the time to calculate the message integrity by using previously created error detecting codes of subframes.

Regarding claim 6, Kapoor teaches the method of claim 1, the message integrity field is stored within one of the plurality of subpackets (i.e., the error detection code may be put at the end of the segment, col. 3 lines 6-7), and the message integrity field is calculated based upon the contents of each subpacket other than the subpacket in which the message integrity field is stored (i.e., the checksum is generated for entire data frame, col. 2 lines 7-9).

Regarding claim 7, Kapoor teaches the method of claim 4, in which the message integrity field is stored within one of the plurality of subpackets (i.e., the checksum may be put at the end of the segment, col. 3 lines 6-7).

Regarding claim 8, Kapoor teaches the method of claim 1,

Kapoor teaches the message integrity field is stored within one of the plurality of subpackets (i.e., the error detection code may be put at the end of the segment, col. 3 lines 6-7).

Kapoor does not explicitly teach the message integrity field is calculated based upon the subpacket error detection fields.

Kapoor teaches an error detecting code is calculated over each subframe (col. 3 lines 5-6). Kapoor further teaches a checksum error code is generated for the entire data packet frame, col. 2 lines 7-9).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Kapoor to calculate the message integrity field (or checksum error code) based on the error detecting code calculated over each subframe. One would be motivated to do so to reduce the time to calculate the message integrity by using previously created error detecting codes of subframes.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 9-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kapoor in view of Admitted Prior Art (APA).

Regarding claim 9, Kapoor teaches the method of claim 1,



Kapoor does not explicitly teach the communications link is based on a frequency hopping protocol, and each subpacket is transmitted on a different carrier frequency.

APA teaches the communications link is based on a frequency hopping protocol, and each subpacket is transmitted on a different carrier frequency. (Fig. 4, page 10 lines 18-22)

It would have been obvious to one of ordinary skill in the art the time of the invention to incorporate a frequency hopping spread spectrum communication link of APA in the process of packetized data transferring in Kapoor. One would be motivated to do so to reduce noise and interference over the transmissions.

Regarding claim 10, Kapoor teaches system comprising:

a plurality of subpackets into which the contents of the long length data packet are divided (i.e., subdivides the frame of data into subframes, col. 2 lines 64-65), each subpacket including an error detection field for evaluating the accuracy with which that particular subpacket is transmitted (i.e., a checksum error code is generated for each of the plurality of subframes, col. 2 lines 7-8);

a message integrity field included in one of the plurality of subpackets (i.e., a checksum error code may be put at the end of the segment, col. 2 lines 9-10), which field is calculated to include compressed information describing the data contained within the plurality of subpackets (i.e., all segments of a frame are verified by an encoding process, col. 3 lines 10-11);

a transmitter that transmits each of the subpackets two or more times (i.e., the packet data is resent until each subframe for a frame has been correctly received, col. 4 lines 15-16);

a receiver that demodulates the transmitted subpackets (i.e., receiver 20, Fig 1 col. 2 lines);

a memory register associated with the receiver into which accurately received subpackets are stored (i.e., storage such as for storing subframes which have been received without error, col. 2 lines 56-57);

a packet completion evaluator which performs a calculation by which a message integrity value is determined based upon the contents of the memory register, and indicates that a long length data packet has been correctly received when the result of the calculation matches the message integrity field received in the transmitted subpackets (i.e., calculating the checksum over the frame and comparing it to the checksum code which has been transmitted along with the frame, col. 3 lines 41-44);

whereby the data within the correctly received long length data packet is subsequently processed by the receiver (i.e., frame is constructed from subframes which do not contain errors, col. 4 lines 17-18).

Kapoor does not explicitly teach a transmitter that broadcasts each of the subpackets two or more times in accordance with a frequency hopping protocol.

However, APA teaches a transmitter that broadcasts each of the subpackets two or more times in accordance with a frequency hopping protocol (Fig. 4 page 10 line 18- page 11 line 10).

It would have been obvious to one of ordinary skill in the art the time of the invention to modify Kapoor to broadcast each of the subpackets two or more times in according with frequency hopping protocol as in APA. One would be motivated to do so to reduce noise and interference over the transmissions.

Regarding claim 11, Kapoor teaches the system of claim 10, in which the message integrity field is calculated based upon the content of the long length data packet (i.e., a checksum error code is generated for the entire data packet frame, col. 2 lines 7-9).

Regarding claim 12, Kapoor teaches the system of claim 10,  
Kapoor does not explicitly teach the message integrity field is calculated based upon the subpacket error detection fields of the subpackets other than the subpacket in which the message integrity field is included..

Kapoor teaches an error detecting code is calculated over each subframe (col. 3 lines 5-6). Kapoor further teaches a checksum error code is generated for the entire data packet frame, col. 2 lines 7-9).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Kapoor to calculate the message integrity filed (or error checksum code) based on the error detecting code calculated over each subframe. One would be motivated to do so to reduce the time to calculate the message integrity (or error checksum code) by using previously created error detecting codes of subframes.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Oanh Duong whose telephone number is (571) 272-3983. The examiner can normally be reached on Monday- Friday, 2:00PM - 10:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Saleh Najjar can be reached on (571) 272-4006. The fax phone number for the organization where this application or proceeding is assigned is 571-272-8300

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

O.D  
July 24, 2005



SALEH NAJJAR  
PRIMARY EXAMINER